

**WHAT IS CLAIMED IS:**

1. A manufacturing process of a perpendicular magnetic recording medium comprising the steps of:
  - forming a disordered antiferromagnetic layer on a substrate;
  - forming a polycrystalline soft magnetic layer on the antiferromagnetic layer;
  - and forming an amorphous soft magnetic layer on the polycrystalline soft magnetic layer;
  - wherein said every steps are carried out while applying a magnetic field having a component parallel to a surface of the substrate.
2. The manufacturing process according to claim 1, wherein the direction of the magnetic field having a component parallel to the surface of the substrate is substantially parallel to a radial direction of the substrate.